

## **Fireworks and Explosive/Energetic Waste Status Update: June 2016**

### Explosives Disposal Alternatives Team (EDAT)

Team Mission: “Explore ways to better manage certain explosive/energetic wastes and reduce contamination from open burning/open detonation (OB/OD) operations.”

Team Members: Sasha Gerhard (team lead), Ken Shuster (senior staff), Mike Galbraith (senior staff), Terri Crosby-Vega (R4 staff), Norma Abdul-Malik (staff), and Jeff Gaines (staff).

### **Background**

The EDAT (or “Explosives Team”) was formed to evaluate and respond to safety and human health and environmental issues stemming from the OB/OD of energetic hazardous wastes which include military munitions, fireworks, flares, airbags, and several others.

To achieve our mission, we are focusing our efforts on projects to reduce the illegal disposal of fireworks and minimize adverse impacts to human health and the environment (HH&E) from the OB/OD of all types of energetic hazardous wastes.

### **Projects**

#### *CSB Memo*

- Memo developed to respond to the U.S. Chemical Safety and Hazard Investigation Board (CSB) recommendations to the Agency concerning the fireworks accident in HI in which five workers lost their lives disassembling fireworks, and to provide information on the safe and legal handling, storage, and treatment of waste fireworks aimed at preventing such accidents.
- CSB Brochure is a companion to the memo and intended as a quick reference guide for Federal partners, local law enforcement, and fire marshals.
- The draft memo is being distributed to select states, tribes, and Federal partners for review.

#### *Review of Regulatory Authorities to Require the Evaluation of Alternative Treatment Technologies During the RCRA Permit Process*

- The 1980 interim status regulations prohibit the open burning of hazardous waste, except for the open burning and detonation of waste explosives. The reason for this exception was based on safety concerns and the lack of viable treatment alternatives at the time.
- Although there are still safety issues related to handling today, there are several proven alternative treatment technologies available and currently in use.
- There are several ways to minimize adverse impacts to HH&E from OB/OD, but it is important to first ensure that we do have statutory/regulatory authority to require that RCRA permittees conduct an evaluation of alternative treatment technologies.
  - Developed a paper which lists and describes the possible authorities that can be used by EPA and states, and submitted to OGC for review and comment. OGC confirmed that we do have the authority to require evaluations of alternative technologies.
  - Next step will be to determine whether EPA and states can require, on a site-specific basis, that a viable alternative technology be used in place of OB/OD.

- Determination on hold until the team completes a formal review of available alternative technologies and documents the contamination associated with OB/OD.

#### *Assessment of Alternative Treatment Technologies to Treat Hazardous Energetic Waste*

- This project will be accomplished with contract assistance.
- Contractor is tasked with reviewing, researching, organizing, and assessing the available alternative treatment technologies. The findings are to be provided in a report to EPA, which ultimately is intended to serve as a guide for regulators and permittees alike.
- Expect a final report by late September 2016.

#### *Assessment of Environmental Contamination and Safety Issues Associated with OB/OD*

- This project will be accomplished with contract assistance.
- Contractor is tasked with producing an assessment of environmental (contamination) and safety issues associated with OB/OD of energetic hazardous waste.
- Expect a final report and case study by mid-November.

### **Outreach/Partnerships**

The Explosives team is working with several groups toward the common goal of finding ways to better manage explosive wastes and to reduce contamination from OB/OD operations.

- Ongoing dialogue with Environmental groups lead by Laura Olah, Executive Director for Citizens for Safe Water Around Badger (CSWAB) ([ [HYPERLINK "http://www.cswab.org"](http://www.cswab.org) ]) and Jane Williams from Communities Against Toxics (CA). Both groups' goal is to end the practice of OB/OD and incineration and to replace with alternative treatment technologies.
  - Working together to share information and data regarding OB/OD sites.
  - Environmental groups successfully petitioned U.S. Senator [ [HYPERLINK "https://www.facebook.com/TammyBaldwin/"](https://www.facebook.com/TammyBaldwin/) ] (WI) who filed an amendment to the National Defense Authorization Act (S.2943) on May 27<sup>th</sup> requiring an independent scientific review of safer alternative to open burning, detonation and incineration of hazardous waste munitions.
  - Congress is committing \$900,000 for the study to be conducted by the National Academy of Science (NAS). Jane Williams is strongly urging EPA to be involved in the review panel. (In process of ascertaining how to become involved with NAS.)
  - Enviro strongly influenced the decision to use an enclosed chamber to treat the M6 propellant at Camp Minden versus proposed OB. (Team members plan to travel to observe operations in June/July)
- Hold bi-monthly conference calls with DOD and other EPA offices to discuss the development of emission factors (EFs) for OB/OD. EPA (ORD and RTP) has been working with DOD for several years to revise EFs for OB/OD operations, which will be based on better science via improved air sampling methods. Ultimately, the new EFs will help RCRA and Air permit writers determine more protective permit limits.
  - ORCR's role (Explosives Team) is to provide feedback on the critical need to obtain representative data not only from air sampling from burning, but also proper site characterization to capture kick-out from detonations, which is largely responsible for soil and groundwater contamination.

- Hold monthly Subpart X permit writer calls with state and Regional partners. Call is well attended and participants share information and seek feedback related to permitting, enforcement, and military munitions rule issues/concerns.
- Attend quarterly Interagency Committee on Explosives (ICE) meetings. The mission is to promote and facilitate informal information exchange regarding ammunition, explosives, and other reactive materials. Active members include representatives from Departments of Defense, Energy, Homeland Security, Justice and Transportation and agencies such as ATF, FBI, CIA, EPA, CDC, NASA, OSHA and CPSC.
- Maintain relationship with DOD's Explosives Safety Board (DDESB). DDESB has been a helpful source of information for alternative treatment technologies and safety incidents.
- Provide routine updates at RCRA BC and DD meetings, as well as the NEWMOA conference, to share information about our team's work.
- Participate in meetings with MRWMD on the Takata air bag recall. Explosives team provides input with regard to explosives management and treatment. Currently assessing RCRA permit options for storage of the inflators by Takata and possibly for the eventual treatment of the inflators.

### **Future Projects**

- Finalize the Review of Regulatory Authorities to Require the Evaluation of Alternative Treatment Technologies paper.
- Select and, with OSRTI, demonstrate alternative technologies based on the evaluation of alternative treatment technologies report (and possibly in conjunction with findings of NAS study.)
- Develop guidance, policy, or rulemaking to promote or require alternative treatment technologies in place of OB/OD. (Method will be based on findings from environmental contamination case study and report.)